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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,887	10/16/2006	Hiroshi Itani	0760-0349PUS1	1737
2292 7590 11/04/2009 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER LEONARD, MICHAEL L				
ART UNIT		PAPER NUMBER		
1796				
NOTIFICATION DATE		DELIVERY MODE		
11/04/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/550,887

**Applicant(s)**

ITATANI, HIROSHI

**Examiner**

MICHAEL LEONARD

**Art Unit**

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 28-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

Applicant's election with traverse of Group I, Claims 1-10, Group II, Claims 11-27, Group III, Claims 28-29, and Group IV, Claims 30-36 in the reply filed on 07/16/2009 is acknowledged. The traversal is on the ground(s) that the U.S. Patent Document No. 6,320,019 cited by the examiner does not break the unity of invention. This is not found persuasive because the unity of invention has four components each of which is disclosed in the independent claims of Groups I-IV: tetramine, a tetracarboxylic dianhydride, an aromatic amine and a catalyst to produce a crosslinked polyimide. All of the claimed effects of the invention are met by the U.S. cited document to Lee et al. because Lee discloses all of the components that make up the crosslinked polyimide (See Examples II-IV).

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 102***

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 11-12, 14 and 24 are rejected under 35 U.S.C. 102 (b) as being anticipated by U.S. Patent No. 6,320,019 to Lee et al.

Claim 13 rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 6,320,019 to Lee et al. that has been explained above and is applied here as such in view of U.S. Patent Pub. No 2001/0009936 to Suzuki et al.

Claims 15-23, 25-26 are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 6,320,019 to Lee et al. that has been explained above and is applied here as such in view of U.S. Patent No. 5,502,143 to Oie et al.

Claim 27 is rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 6,320,019 to Lee et al. that has been explained above and is applied here as such in view U.S. Patent No. 6,630,064 to Itatani.

### ***Response to Arguments***

Applicant's arguments filed 07/16/2009 have been fully considered but they are not persuasive.

The applicants' argued that the Lee invention did not disclose the correct process for forming the polyimide crosslinked structure because Lee discloses a process wherein a first polyamic acid structure is formed and then an imidization process was conducted on the polyamid acid to form the final product at a temperature of from 190°C in the presence of toluene, which meets the claimed effects of the instant application. The examiner respectfully disagrees because the final product of Lee is invariably the same because all of the claimed ingredients are present and the process, including temperature, catalyst, and solvent, are the same and thus it would have been obvious to a person of ordinary skill in the art that the final product would the same. Furthermore, the polyamic acid was produced by a polycondensation reaction wherein the four components are combined and reacted to form a polyamic acid, which then undergoes imidization to form the polyimide resin. There are no steps in the present claims that

state wherein the polycondensation reaction is completed or when it is completed during the formation of the polyimide crosslinked polymer. As a result, the way the claims are written and interpreted, it appears that as long as the four components undergo a polycondensation at some point and the final product is a polyimide then any prior art, including Lee, which discloses this reads on the claimed effects of the invention (Example III, Column 9).

Furthermore, the applicants' argued that the process of Lee would not produce a polyimide with a large cyclic structure and a low dielectric constant. However, the applicants' failed to show or discuss the prior art against the claimed invention in such a way that a person of ordinary skill in the art would be able to show discrepancies between the prior art and the instant application, such as a large cyclic structure and a low dielectric constant.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL LEONARD whose telephone number is (571)270-7450. The examiner can normally be reached on Mon-Fri 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MICHAEL LEONARD/

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Examiner, Art Unit 1796

/Randy Gulakowski/

Supervisory Patent Examiner, Art Unit 1796